



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,381	11/12/2003	Moris Dovek	HT02-016	6373
28112	7590	09/29/2010		
SAILE ACKERMAN LLC				
28 DAVIS AVENUE				
POUGHKEEPSIE, NY 12603				
EXAMINER				
DRAVININKAS, ADAM B				
ART UNIT		PAPER NUMBER		
2627				
MAIL DATE		DELIVERY MODE		
09/29/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/706,381

Applicant(s)

DOVEK ET AL.

Examiner

ADAM B. DRAVININKAS

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/CD)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 16 August 2010 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re. claim 4: the limitation "a peripheral magnetic field" was not described in the specification as originally filed.

Claims 5-10 are rejected because of their respective dependencies.

Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by "a peripheral magnetic field" since there is no explanation or definition in the specification and this is not a term of art. The Examiner asks Applicant what is meant by the above term. For purposes of this Office Action, the above term has been interpreted to mean "a magnetic field."

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (US 6,791,793 B1) in view of Takano et al. (US 2002/0080521 A1).

Re. claim 4: Chen discloses:

a magnetic write head, having an air bearing surface (ABS), comprising:

directly on a substrate, a first layer (96) of high magnetic permeability material, having, on a first side, an edge whose surface is normal to said substrate and parallel to said ABS, that serves as a primary lower magnetic pole;
(see fig. 7; col. 6 lines 6-23)

a first non-magnetic layer (98) that contacts said first layer of high magnetic permeability material only at said edge and extends away therefrom, said non-magnetic layer having a top surface that is coplanar with that of said primary lower magnetic pole; (see fig. 7; col. 6 lines 6-23, col. 8 lines 9-16)

a second layer (108) of high magnetic permeability material that serves as a secondary lower pole that fully covers and contacts said primary lower magnetic pole and said first non-magnetic layer, above which it serves as a ledge having a width; (see fig. 7; col. 8 lines 7-16)

a field coil (94) over, and insulated from, said primary and secondary lower poles; (see fig. 7; col. 5 lines 58-67)

an upper magnetic pole (90 and 92 combined) that overlies said field coil, contacting said secondary lower pole (108) at a second side that is opposite to said first side, and that is separated from said ledge at said first side by at least a second layer (95 and 99 combined) of non-magnetic material that is a write gap across which a magnetic field may be generated for the purpose of writing data, said upper magnetic pole having, at the write gap, a width equal to said ledge width, whereby it defines a track width; (see figs. 7, 8; col. 5 lines 50-57, col. 6 lines 1-5)

said ledge extending away from said primary lower pole by an amount; and (see fig. 7)

said secondary lower pole having a thickness that remains unchanged over said secondary lower pole's entire length. (see thickness of 108) (see fig. 7)

Chen fails to disclose or fairly suggest:

the substrate is a non-magnetic substrate.

Takano discloses:

a magnetic writing head having a substrate (5) made of alumina titanium carbide. (see fig. 5; para. 0064)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the substrate of Chen out of alumina titanium carbide as taught by Takano. One of ordinary skill in the art would have been motivated to do this in order to increase the wear resistance of the substrate and to ensure electrical isolation for the magnetic write head.

Re. claim 5: Chen discloses said first layer (96) of high magnetic permeability material is NiFe, CoNiFe, and has a thickness between about 0.5 and 2.0 microns. (see col. 6 lines 7-24)

Re. claim 6: Chen discloses said non-magnetic layer (98) is aluminum oxide. (see col. 8 lines 8-16)

Re. claim 7: Chen discloses said second layer (108) of high magnetic permeability material is NiFe, CoNiFe, and has a thickness between about 0.5 and 2.0 microns. (see col. 6 lines 7-24)

Re. claim 8: Chen discloses said upper magnetic pole (90) is NiFe, CoNiFe, and has a thickness between about 0.3 and 3 microns. (see col. 5 lines 50-58, col. 6 lines 6-12)

Re. claim 9: Chen discloses said width is about 0.1 microns. (see col. 8 lines 55-65)

Re. claim 10: Chen discloses said amount that said ledge extends away from said primary lower pole is between about 0.1 and 1 microns. (see claim 19)

Response to Arguments

8. Applicant's arguments filed 16 August 2010 have been fully considered but they are not persuasive. Applicant argues on page 4, that Chen fails to disclose the claimed write gap which is usable "in a peripheral recording write head (the type of recording head disclosed by the present invention)." The Examiner respectfully disagrees. Nowhere in the originally filed specification has Applicant defined the term "peripheral recording write head" and such a term is not a term of art. If Applicant intended to instead use the phrase "longitudinal recording write head" in the arguments and/or the claims, such a term would be appropriate based on the shape and layers of the write head illustrated in at least Fig. 4 of the present application. Further, it appears that as written, the claimed limitation "a write gap across which a peripheral magnetic field may be generated for the purpose of writing data" is an intended use of a write gap rather than an explicit structure of a write gap or write gap layer.

9. Applicant additionally argues that in Chen's write head shown in fig. 7 the *recording medium* provides a return flux path for magnetic flux. However this is untrue because at column 5, lines 56-58, Chen explicitly discloses the *bottom pole* (90) as the return path for magnetic flux during a write operation onto the magnetic disc.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM B. DRAVININKAS whose telephone number is (571)270-1353. The examiner can normally be reached on Monday - Thursday and Alt. Fridays 10:00a - 7:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 2627

If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

***/Brian E. Miller/
Primary Examiner, Art Unit 2627***

September 21, 2010
/A. B. D./
Examiner, Art Unit 2627